IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Schoo, et al.	EXAMINER: HO, Anthony
SERIAL NO.:	10/561,261	ART UNIT: 2815
FILED:	February 10, 2006	CONFIRMATION NO.: 5706
TITLE:	Light Emitting Diode	

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 35 USC § 1.132

Dear Sir:

In regard to the referenced application, I, Hermannus Franciscus Maria Schoo, the undersigned, hereby declare that I am an inventor of the above-captioned invention. My credentials as an expert in the field of the present application are detailed on Exhibit "A" attached hereto. I further declare that:

1. In preparing to sign this Declaration, I have read the above-captioned application and reviewed its claims in the amended form presented in the Amendment and Response submitted with this Declaration. I understand that claims 22-35 and 47 of the application are being rejected as obvious over Zhang et al. (Journal of Applied Physics, Vol. 84, No. 3,1 August 1998, pp 1579-1582) in view of Tuschel et al. (US PUB 2005/0030545). I have read each of these references. This Declaration is offered in rebuttal of the pending obviousness rejection.
2. The examiner states that Zhang et al. discloses a detection system having at least one semiconductive electroluminescent active layer, wherein the emission spectrum of the diode exhibits at least two intensity maxima. However, Zhang et al. only relates to a LED, *i.e.* a light source. The only use of the light source that is suggested is the use of the LED as a lamp for emitting white light (see 'CONCLUSION' at page 1582). The LED of Zhang as such is not intended for use

as a detection system nor suitable as a detection system, since a detector is absent. Accordingly, the statement that Zhang et al. discloses a detection system is not correct.

3. The examiner states that Tuschel et al discloses a detector in optical communication with a LED and refers to Figure10 to support this statement. The examiner further states that one of the pixels can function or be labeled as a signal channel and another diode as a separate reference channel. However, Tuschel et al is silent on such functions. Moreover, this interpretation of Figure10 is not in line with the disclosure of Tuschel et all. Starting at paragraph [0063] of Tuchel et al., the meaning of Figure 10 is explained. There is no reference of designing the detection system such that it has a signal channel and a reference channel.

4. With respect to Figure 10, it is further observed that in paragraph [0064] it is explained that the device has a filter comprising a series of filter elements. The filter elements have plates defining a cavity between the plates. The thickness of the cavity defines the resonant wavelength, which is allowed through the filter which is used to obtain a spatially accurate wavelength resolved image of the sample (see also paragraph [0063]). In the final sentence of paragraph [0064] it is stated that the plural cavities (*of the various filter elements*) are set to the same cavity spacing (*thus all resonant to the same wavelength*) and it is stated that rays oriented normal to the plates at the resonant wavelenght are passed and other wavelengths are reflected backwards along the optical path (*phrases in italics are explanations by the undersigned*). In paragraph [0070] it is stated that the images detected by the detector are produced at one wavelength at a time.

5. Thus, it is clear from Tuschel et al. that at any moment in time during use only light of one or these maxima will be detected by the detector due to the design of the detector. The design of the detection system of Tuschel et al, such as shown in e.g. Figure 10, does not allow for simultaneous detection of both the light having a wavelength of a first intensity maximum and light having a wavelength of a second intensity maximum.

6. Accordingly, the detection system as described in Tuschel et al. does not comprise a detector comprising a signal channel arranged for detecting light emitted by a

LED with a wavelength of a first intensity maximum and a separate reference channel arranged for detecting light emitted by a LED with a wavelength of a second intensity maximum in optical communication with the LED, which detector is arranged for detecting said wavelengths of said intensity maxima simultaneously.

7. In view of the above, it is submitted that the subject-matter of the present claims is not obvious over Zhang et al. in view of Tuschel et al. because even the combined teaching of both documents leads to a working detection system as defined in the present claims.

8. For completeness' sake, it is observed that the subject-matter of claim 43, specifying that the detection system comprises at least one polymeric photodiode for each of said channels is not disclosed in Zhang et al. nor in Tuschel et al, which further adds to the non-obviousness of this claim.

9. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

Date: 12/12/09

Hermannus Franciscus Maria Schoo

S:\ClientFolders\0064 (Vereenigde)\25\Declaration under 35 USC 1.132 0064.25.doc

EXHIBIT A

CURRICULUM VITAE OF DR. HERMAN F.M. SCHOO

Biographic details of Dr. Herman F.M. Schoo

1992-1999:	From February 1992 involved as a polymer chemist in several multidisciplinary projects at the Philips Research Laboratories. These included the development of polycarbonates that do not show stress-induced birefringence, the synthesis of (block) copolymers that can be used in the steric stabilization of water-based colloidal suspensions of (for instance) metal oxides, and the development of (semi-)conducting polymers. Developed PPV materials that were later commercialized by Covion (now Merck). Was involved in setup of PolyLED Business Unit at Philips, resulting in a pilot production unit in Heerlen, being the first commercial producer of polymer light emitting diodes.
1999-2005:	From February 1999 at TNO Industrial Technology and as research fellow of the Dutch Polymer Institute to set up a group, working on semi-conducting polymers and devices. This encompassed Organic LEDs, Transistors, Solar Cells and Sensors based on organic devices, involving around 20 researchers. Involved as Chief Technology Officer in a startup-company, "Orgatronics", aiming at pre-production support and pilot production of organic electronic device applications. Member of the Scientific Advisory Board of the Plastic Electronics Conference. Lecturer in a number of Top Technology Courses on polymer Electronics. Co-organizer of the International Conference on Organic Electronics. Involved in setup of the Holst Centre at the Eindhoven High Tech Campus. Currently, this is one of the leading institutes in the field of Organic and Large Area Device Technology
CURRENT POSITION	Program manager in the Holst Centre of the strategic program "Sensor Tags & Systems" where combinations of organic, large area electronic device technology is investigated Recently appointed as Senior Research Fellow of TNO
AREAS OF EXPERTISE	- Synthesis of high quality (semi-)conducting materials for polymer/organic devices; - Physics and mathematical modeling of new devices based on the relationship between molecular structure and material properties; - Semiconducting polymers, to produce plastic electronic components, such as field effect transistors, organic solar cells, and polymer light emitting diodes; - Applications of organic semi-conducting devices - Process technology involved in manufacture of organic electronics

PUBLICATIONS

> 90 publications, mainly on chemistry, physics, lifetime and application of organic semiconductor

> 60 invited lectures

> 30 patents/patent applications